TUNNEL DAMPER

FLOWPRO MODEL MBD

Series 250 & 400

AIRFOIL BLADES

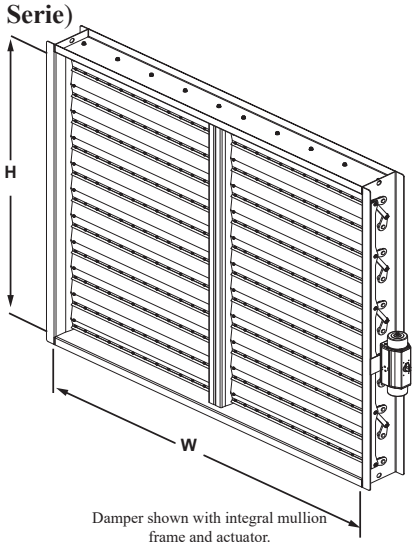
APPLICATION

MBD is a heavy duty flanged frame style industrial On/Off damper qualified for use in tunnel and transit systems. The airfoil blades, blade seals and stainless steel jamb seals meet the demanding requirements for strength, leakage & operability to standards such as NFPA-130, 502. As with all KBE - FLOWPRO heavy duty industrial damper models, the design can be modified and the product can be tailored to meet the requirements of any specification.

•Thermal Ratings: -400°C for 2hours (**for 400 Serie**)
-300°C for 2hours after a thermal shock from -5°C to 300°C (**for 250 Serie)**
•Fire Ratings: BS476-20 for 4 hours
•Leakage Rate: UL555S - Class I
•Operation: Opposed Blades
•Mounting: Horizontal or Vertical
•Maximum Pressure: Up To 24.0" W.G.
•Maximum Velocity: To 5000 FPM

FEATURED STANDARD CONSTRUCTION

•FRAME:
- 200 mm x 3 mm galvanized steel Formed channel frame construction (**for 400 Serie**)
- 200 mm x 2 mm galvanized steel Formed channel frame construction (**for 250 Serie**)
•BLADES:
- 2 mm galvanized double skin Airfoil blade. (**for 400 Serie**) -
1.5 mm galvanized double skin Airfoil blade. (**for 250 Serie**) -
Opposed blades operated.
•BEARINGS:
- Oil impregnated sintered bronze press-fit into frame.
•AXLES:
- 3/4" Stainless Steel 304.
•LINKAGE:
- Stainless Steel 304 linkage between the channel frame.
•FINISH:
- Mill galvanized.
•BLADES SEALS:
- Silicon impregnated glass fiber mechanically attached to blade edge.
•JAMB SEALS:
- Corrosion resistant stainless steel
•SIZES:
- Minimum Size: 300 mm Width x 300 mm Height
- Maximum Single Size: 2500mm Width x 2500 mm Height
- Multiple Section Size: Multiple units can be stacked on top of or besides each other.
- Dampers with Width exceeding 1000mm will have an integral mullion frame, as maximum blade length is 1000mm , larger damper modules come with mullions welded into the damper casing.



Damper shown with integral mullion frame and actuator.

OPTIONS

• OPTIONAL MATERIAL: - Stainless steel 304 or 316L construction.
• FRAME OPTIONS: - Thickness up to 3mm; (**for 250 Serie**)
- Depth up to 300mm;
- Mounting holes in flanges.
• ACTUATOR :- Electric 230V, 120V or 24V; Electro-Hydraulic & Pneumatic.
- Spring Return or Non-spring Return
• SHAFT AND LINKAGE**:** Zinc Plated Steel.
• LIMIT SWITCHES**: -**for Open/Close Damper position Monitoring Suitable for 400°C (**for 400 Serie**)
-for Open/Close Damper position Monitoring Suitable for 250°C (**for 250 Serie**)

TUNNEL DAMPER

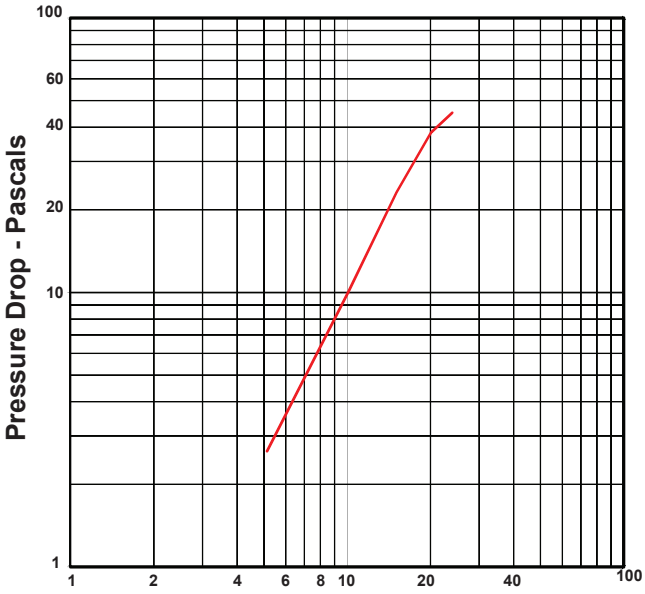
FLOWPRO MODEL MBD

Series 250 & 400
AIRFOIL BLADES

AERODYNAMIC PERFORMANCE DATA

PRESSURE DROP

Test conducted on damper size 36”x36”

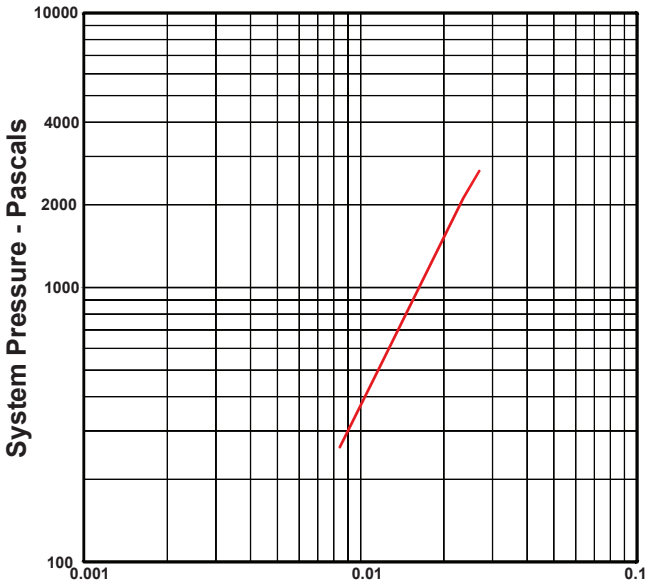


Face Velocity - meters/second (m/s)

Test Conducted at AMCA according to AMCA-500-D Std Fig 5.3- No. 29816

LEAKAGE

Test conducted on damper size 36”x36”



Air Leakage - m^3/s per m^2

Test Conducted at AMCA according to AMCA-500-D Std Fig 5.4- No. 29816

AMCA TEST FIGURES

•**Pressure Drop Data:** The pressure drop data was conducted in accordance with AMCA std 500-D - fig 5.3. All data has been corrected to represent standard air at a density of 1.2Kg/m3. Figure 5.3 Illustrates a fully ducted damper. This configuration has the lowest pressure drop of the test configurations because entrance and exit losses are minimized by straight duct runs upstream and downstream of the damper.

•**Leakage Data:** Damper leakage (with blades fully closed) varies based on the type of low leakage seals applied. Leakage testing was conducted in accordance with AMCA std 500-D and is expressed as m3/s per m2. of damper face area. All data has been corrected to represent standard air at a density of 1.2Kg/m3

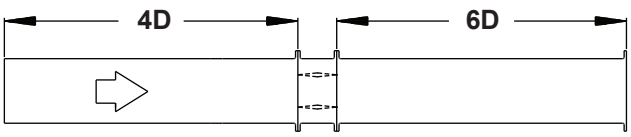


Fig. 5.3